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EXAMINER
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JOO, JOSHUA

ART UNIT	PAPER NUMBER
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2154

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/034,368	GOURLAY ET AL.	
	Examiner	Art Unit	
	Joshua Joo	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-27 and 29-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11-27 and 29-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |



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***Detailed Action***

1. Claims 1-2, 4-9, 11-27, 29-42 are presented for examination.

**Response to Arguments**

2. Applicant's arguments with respect to claims 1-2, 4-9, 11-24, and 29-42 have been considered but are moot in view of the new ground(s) of rejection.

**Specification**

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- i) Regarding claims 6 and 23, the limitation of "computer-readable medium" lacks sufficient antecedent basis in the specification.

Examiner suggests amending the specification, page 19, lines 2-7, to recite, "Examples of machine-readable media and computer-readable medium include, but not limited to, magnetic media such as hard disks, floppy disks, and magnetic tape; optical media such as CD-ROM disks; magneto-optical media such as floptical disks; and hardware devices that are specifically configured to store and perform program instructions, such as read-only memory devices (ROM) and random access memory (RAM). The invention may also be embodied in a carrier wave traveling over an appropriate transmission media such as..."

**Claim Rejections - 35 USC § 112**

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-2, 4-8, 34-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i) Regarding claims 1, 6-8, and 34, "the corresponding packet" lacks sufficient antecedent basis.



**Claim Rejections - 35 USC § 102**

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2, 4, 6-8, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Brendel, US Patent #6,587,438 (Brendel hereinafter).

8. As per claims 1, 6-8, Brendel teaches the invention as claimed including a network device adapted for processing a service request, Brendel's teachings comprising:

a processor; and a memory, at least one of the processor and the memory being adapted for (col.

5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.):

receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

sending a plurality of packets in response to receiving the service request, each of the plurality of packets identifying a different type of service via which to send the corresponding packet (col. 5, lines 52-

57. Send multiple packets, each packet over different path.), wherein the type of service directly

corresponds to a service provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP addresses that may correspond to routers, gateways, or ISPs.); and

maintaining a mapping of each different type of service to an IP address (col. 11, lines 10-23.

path-matching table can include path address. Path field is used to specify path for future packets.),

thereby enabling the service request to be processed via an IP address associated with a type of service

identified in a first one of the plurality of packets to be received (col. 6, lines 13-20. Client responds to packet that arrives first.).



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9. As per claim 2, Brendel teaches the network device as recited in claim 1, wherein the service request is a TCP connection request or a DNS request (col. 5, lines 51-56; col. 7, lines 14-17. Request for TCP connection.).

10. As per claim 4, Brendel teaches the network device as recited in claim 1, wherein the type of service indicates a specific network connection or domain (col. 5, lines 55-56; col. 10, lines 61-64. Path identified IP address. col. 11, lines 4-8. Path to ISP.).

11. As per claim 42, Brendel teaches the network device as recited in claim 1, wherein the type of service identifies the service provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP addresses that may correspond to routers, gateways, or ISPs.).

#### **Claim Rejections - 35 USC § 103**

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 5, 9, 11-20, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Coughlin, US Patent #6,810,411 (Coughlin hereinafter).

14. As per claim 5, Brendel teaches of a mapping having a type of service field adapted for indicating a type of service. However, Brendel does not specifically teach the network device wherein maintaining



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the mapping comprises maintaining a plurality of A-records, each of the A-records having a type of service field and wherein receiving the request comprises receiving a DNS A-record request.

Coughlin teaches of maintaining a mapping of host names to IP addresses (service field) and receiving a request for DNS translation (col. 4, lines 39-44; col. 5, lines 44-51).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to maintain a mapping of host names to IP addresses and receive a request for DNS translation. The teachings of Coughlin would enhance the system by allowing the server to respond to different types of requests including DNS requests, and determining an optimum path for different services.

16. As per claims 9, 23-25, Brendel teaches substantially the invention as claimed including a network device adapted for processing a request, comprising:

a processor; and a memory, at least one of the processor and the memory being adapted for (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.):

receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and

transmitting a plurality of responses in response to the request (col. 5, lines 52-57. Send multiple packets, each packet over different path.), each of the plurality of responses being transmitted via a different path associated with a different type of service, wherein the type of service identifies or is mapped to a service provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP addresses that may correspond to routers, gateways, or ISPs.).

17. Brendel does not specifically teach of the request comprising a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.



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Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a request comprising a DNS request indicating a domain for which an IP address is requested and send a plurality of DNS responses as both teachings deal with identifying a first response to determine an optimum service. The teachings of Coughlin would enhance the system by providing an optimum path for establishing connection for different types of services including DNS requests (col. 5, lines 53-60; col. 6, lines 27-31).

19. As per claim 11, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses includes a different one of a plurality of IP addresses, each of the plurality of IP addresses being mapped to a different type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10. IP addresses mapped to routers, gateways, and ISPs.).

20. As per claim 12, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses has the same source address and destination address (col. 5, lines 55-56. Packets sent from server to client.).

21. As per claim 13, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches at least one of the processor and memory being adapted for: providing a service identifier in each of the plurality of responses, the service identifier



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identifying a service provider that is used to route the corresponding response (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. Packet contains IP address to send packet.).

22. As per claim 14, Brendel teaches the network device as recited in claim 9, wherein each of the plurality of DNS responses comprises a type of service field adapted for indicating a type of service to be used during next-hop based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.).

23. As per claim 15, Brendel and Coughlin taught of transmitting a DNS request and transmitting a plurality of DNS responses. Brendel does not specifically teach the network device of receiving a DNS A-record request and transmitting a plurality of A-records.

Coughlin teaches of transmitting a request that requests an IP address corresponding to a domain name and transmitting a plurality of responses comprising IP address corresponding to a domain name (col. 5, lines 26-31, 44-51; col. 6, lines 22-31, 37-44).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a request that requests an IP address corresponding to a domain name and transmit a plurality of responses comprising IP address corresponding to a domain name, which would provide an optimum path for establishing a connection for different types of services (col. 5, lines 53-60; col. 6, lines 27-31).



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25. As per claim 16, Brendel does not specifically teach the network device wherein each of the plurality of A-records includes a different IP address that is mapped to a service provider.

Coughlin teaches of transmitting a plurality of A-records, wherein each A-record includes a different IP address that is mapped to a service provider (col. 2, lines 25-31; col. 5, lines 26-39; col. 6, lines 25-31).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a plurality of A-records, wherein each A-record includes a different IP address that is mapped to a service provider, which would allow the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

27. As per claim 17, Brendel does not specifically teach the network device as recited in claim 16, wherein each of the plurality of A-records further includes a field adapted for identifying the service provider.

Coughlin teaches of the plurality of A-records identifies the service provider (col. 2, lines 25-31; col. 5, lines 26-39; col. 6, lines 25-31).

28. It would have been obvious to one of ordinary skill in the art to include a field that would allow identification of the service provider in the response. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin for the plurality of A-records to identify a service provider, which would allow the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).



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29. As per claim 18, Brendel does not specifically teach the network device as recited in claim 17, at least one of the processor and the memory being further adapted: maintaining a table of A-records that includes the plurality of A-records.

Coughlin teaches of maintaining a mapping of host names to IP addresses (col. 4, lines 39-44; col. 5, lines 44-51).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to maintain a mapping of host names to IP addresses, which would enhance the system by allowing the server to respond to different types of requests including providing a DNS response, and determining an optimum path for establishing a connection.

31. As per claim 19, Brendel does not specifically teach the network device as recited in claim 9, wherein transmitting a plurality of DNS responses comprises transmitting the plurality of DNS responses to client DNS server associated with a client initiating the DNS request.

Coughlin teaches of transmitting a plurality of DNS response to a client (local) DNS server associated with a client initiating the DNS request (col. 6, lines 23-31).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a plurality of DNS response to a client (local) DNS server associated with a client initiating the DNS request because providing a local DNS server would distribute the load of servers on the network (col. 4, lines 47-51).

33. As per claim 20, Brendel does not specifically teach the network device as recited in claim 19, wherein the client DNS server is configured to identify a first one of the plurality of DNS responses to be



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received from the network device and to respond to the client with an IP address of the service provider corresponding to the type of service identified in the first one of the plurality of DNS responses.

Coughlin teaches of a client DNS server (local server) configured to identify a first one of the plurality of DNS responses to be received (col. 6, lines 25-31) and to response to the client with an IP address of the service provider corresponding to the type of service identified in the first one of the plurality of DNS responses (col. 6, lines 36-43).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to identify a first one of the plurality of DNS responses to be received and to response to the client with an IP address of the service provider corresponding to the type of service identified in the first one of the plurality of DNS responses, which would allow the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

35. As per claim 22, Brendel and Coughlin taught the network device as recited in claim 9, wherein transmitting the plurality of DNS responses comprises transmitting the plurality of DNS responses. Brendel further teaches of transmitting a plurality of responses via one or more intermediate routers configured to perform next-hop policy based routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

36. As per claim 26, Brendel teaches substantially the invention as claimed including a system for selecting a service provider via which to process a client request, comprising:

a network device adapted for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.) and transmitting a plurality of responses, each of the plurality responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57. Send multiple packets,



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each packet over different path.), wherein the type of service identifies a service provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP addresses that may correspond to routers, gateways, or ISPs.);

one or more intermediate routers configured to perform next hop policy based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.); and

the client being configured to identify a first one of the plurality of responses to be received from the network device (col. 6, lines 13-20. Client responds to packet that arrives first.).

37. Brendel does not specifically teach of the requesting comprising a DNS requesting indicating a domain name for which is an IP address is requested, transmitting a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address of the service provider identified by the type of service identified in the first one of the plurality of DNS responses.

Coughlin teaches a system comprising: a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31. Receive DNS responses.); a client DNS server associated with a client initiating the DNS request and the client DNS server being configured to identify a first one of a plurality of DNS responses (col. 6, lines 23-32. first server selects first arriving DNS response.); and respond to the client with an IP address of a service provider (host) identified by the type of service identified in the first one of the plurality of DNS responses (col. 6, lines 37-40. Communicate first arriving IP address.).



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38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin for the request to comprise a DNS request indicating a domain for which an IP address is requested and send a plurality of DNS responses; a client DNS server associated with a client initiating the DNS request and the client DNS server being configured to identify a first one of a plurality of DNS responses; and respond to the client with an IP address of a service provider (host) identified by the type of service identified in the first one of the plurality of DNS responses. The teachings of Coughlin would enhance Brendel's system by allowing a client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

39. Claims 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Coughlin, in view of Brendel US Patent #6,18,411 (Brendel '411 hereinafter).

40. As per claim 21, Brendel and Coughlin taught the network device as recited in claim 20, wherein the client DNS server is further configured to obtain the type of service from the first one of the plurality of DNS responses. However, Brendel and Coughlin do not specifically teach wherein the client DNS server is configured to obtain an IP address of the service provider corresponding to the type of service from a mapping table.

Brendel' 411 teaches of using a table to lookup an address of a server corresponding to an identifier (IP address) in a packet on the client side (col. 7, lines 49-54; col. 8, lines 50-57).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel, Coughlin, and Brendel '411 to implement a table in the local server to lookup an address of a server corresponding to an identifier of the one of the responses, which would allow migration to different servers if a server becomes unavailable (col. 7, lines 16-20; col. 14, lines 37-43).



42. Claims 27, 29-33, 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Bohannon et al. US Patent #7,103,651 (Bohannon hereinafter).

43. As per claims 27, 39-41, Brendel teaches substantially the invention as claimed including a network device adapted for establishing a TCP connection, Brendel's teachings comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request.

Processor and memory are inherent.), at least one of the processor and the memory being adapted for:

receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates a service provider (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Routing table contains IP address to routers and ISPs.);

receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted (col. 6, lines 28-31. Examine sequence number in ACK packet to determine route.).

44. Brendel does not specifically teach of providing an HTTP redirect to an IP address directly corresponding to the service provider indicated by the type of service.

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).



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45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Bohannon for a service provider to comprise a web server and provide a HTTP redirect to an IP address corresponding to the server provider with the motivation that Bohannon's teachings would identify an optimum web server to service client's requests (col. 10, lines 43-45)

46. As per claim 29, Brendel teaches the network device as recited in claim 27, wherein the TCP connection request comprises a TCP packet having a synchronization flag set and wherein each of the plurality of TCP acknowledgement packets comprise a TCP packet having a synchronize flag set and an acknowledgment flag set (col. 5, lines 41-46; col. 6, lines 55-60. SYN flag set for packet sent by client. SYN+ACK packets sent by server.).

47. As per claim 30, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgement packets comprises a type of service field adapted for indicating a service provider (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs.).

48. As per claim 31, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgment packets comprise a type of service field adapted for indicating a type of service to be used during next-hop based routing on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).



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49. As per claim 32, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgement packet includes a sequence number field, the at least one of the processor and the memory being further adapted for comprising: providing a sequence number in the sequence number field indicating an order in which the plurality of TCP acknowledgements packets are sent (col. 6, lines 42-44; col. 10, lines 14-20. Order of packets is indicated by sequence numbers.).

50. As per claim 33, Brendel teaches the network device as recited in claim 32, wherein receiving an acknowledgment message from the client that indicates receipt of one of the plurality of TCP acknowledgment packets sent by the network device comprises: receiving an acknowledgement message from the client including the sequence number of a first one of the plurality of TCP acknowledgement packets received by the client (col. 6, lines 18-23; col. 7, lines 41-46. Client responds with ACK packet. ACK packet contains server's sequence number incremented by one. (S\_ISN+1)).

51. As per claim 38, Brendel teaches the network device as recited in claim 32, where each of the plurality of TCP acknowledgment packets further comprises a type of service field adapted for indicating a type of service to be used during next-hop routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

52. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Bohannon, in view of Coughlin.

53. As per claim 34, Brendel teaches of receiving a plurality of TCP acknowledgement packets and sending an acknowledgement through an IP back to a server (col. 6, lines 19-23). However, Brendel does not specifically teach the network device where the plurality of packets further comprises: a type of



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service field adapted for indicating a service provider via which the corresponding acknowledgement packet is to be transmitted.

Coughlin teaches of sending a plurality of packets that indicate a service provider via which the corresponding packet is to be transmitted (col. 25-31, 34-43).

54. It would have been obvious to one of ordinary skill in the art to include a field in the packets that would allow identification of the service provider. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin for the plurality of packets to indicate a service provider for transmitting a corresponding packet, which would provide contact information to route a corresponding acknowledgement packet, and also provide information to access a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

55. As per claim 35, Brendel teaches the network device as recited in claim 34, at least one of the processor and the memory being further adapted for:

obtaining the sequence number from the acknowledgment message received from the client (col. 6, lines 24-31; col. 8, lines 49-51. Read sequence number in the ACK packet.);

determining a type of service associated with the sequence number (col. 9, line 65-col. 10, line 2; col. 11, lines 17-21. Compare sequence fields to identify path.); and

ascertaining an IP address corresponding to the service provider indicated by the type of service (col. 11, lines 15-22. Path IP address field used to specify path.).

56. As per claim 36, Brendel teaches the network device as recited in claim 35, wherein ascertaining an IP address corresponding to the service provider indicated by the type of service comprises:



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performing a look up in a mapping table, the mapping table including a plurality of IP addresses, each of the plurality of IP addresses corresponding to a different service provider (col. 11, lines 2-16.

Table contains IP addresses of routers and routes to ISPs.).

57. As per claim 37, Brendel teaches of receiving a plurality of TCP acknowledgement packets and sending an acknowledgement through an IP back to a server (col. 6, lines 19-23). However, Brendel does not specifically teach the network device where the plurality of packets further comprises: a type of service field adapted for indicating a service provider via which the corresponding acknowledgement packet is to be transmitted.

Coughlin teaches of sending a plurality of packets that indicate a service provider via which the corresponding packet is to be transmitted (col. 25-31, 34-43).

58. It would have been obvious to one of ordinary skill in the art to include a field in the packets, which would allow identification of the service provider in the packets. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin for the plurality of packets to indicate a service provider for transmitting a corresponding packet, which would provide contact information to route a corresponding acknowledgement packet, and also provide information to access a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

### **Conclusion**

59. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.



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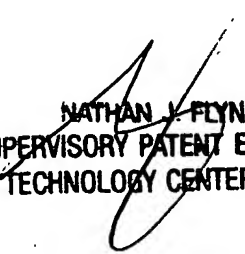
60. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

61. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

62. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 24, 2007

JJ

  
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